

REMARKS:Status

All pending and withdrawn claims, namely claims 1 to 5, 7 to 10, 12 to 22, 24 to 27, 29 to 39, 41 to 44, 46 to 51, and 72 to 85, have been cancelled. Claims 86 to 107 have been added. Claims 86 and 97 are the pending independent claims. Reconsideration and further examination are respectfully requested.

The election/restrictions, claim objections, and claim rejections are moot in view of Applicants' cancellation of all previously pending claims.

Discussion of Applied Art

The new claims are discussed below in light of the references applied in the outstanding Office Action, namely U.S. Patent No. 5,283,791 (Halford), U.S. Patent No. 5,864,655 (Dewey), and U.S. Patent No. 5,666,511 (Suganuma). The independent ones of the new claims are reproduced below:

86. An apparatus that stores data and attempts to protect said data from storage errors, comprising an array of disk drives, each of said disk drives having a plurality of storage blocks;

wherein at least some of said storage blocks store at least data, one or more block numbers, and one or more checksums, with at least one of said checksums being at least partially for at least one of said block numbers.

97. A method of storing data and attempting to protect said data from storage errors in an array of disk drives that each have a plurality of storage blocks, comprising steps of  
determining data for a storage block;

determining one or more block numbers for said storage block;  
determining one or more checksums for said storage block; and  
storing at least said data, said one or more block numbers, and said  
one or more checksums in said storage block;  
wherein at least one of said checksums is at least partially for at least  
one of said block numbers.

The applied art is not seen by Applicants to disclose or to suggest the foregoing features of these claims, at least with respect to the feature that a checksum in a storage block is at least partially for block number(s) in that block. This feature of the independent claims can help to protect the block number(s), which if corrupted can result in loss or misplacement of data stored in those blocks. Furthermore, because the checksum for the block number(s) is in the block, this protection can be provided with limited impact on overall efficiency of data access operations.

Halford's Background of the Invention discusses an identifier block as follows: "So that sectors can be identified by the software, each sector is preceded by an identifier block." However, Applicants do not see any mention in Halford of applying either a parity operation or an ECC or other checksum to this identifier block.

Likewise, the other applied references, namely Dewey and Suganuma and, are not seen by Applicants to discuss applying parity or a checksum to a "block number" or "block identifier." In fact, the terms "block number" and "block identifier" do not even appear in those references.

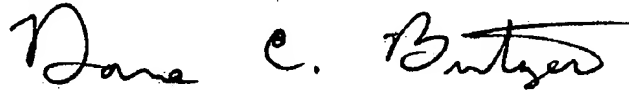
In view of the foregoing, the new claims are believed to be allowable over the art applied in the outstanding Office Action. Such an indication is respectfully requested.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

A handwritten signature in black ink that reads "Dane C. Butzer". The signature is fluid and cursive, with the first name "Dane" being the most prominent.

Dane C. Butzer  
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